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10/676,646

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Kourosh Gharachorloo

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EXAMINER

LE, MIRANDA

ART UNIT

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2167

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/676,646

Applicant(s)

GHARACHORLOO ET AL.

Examiner

Miranda Le

Art Unit

2167

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/31/2007 has been entered.

2. This communication is responsive to Amendment, filed 10/31/2007.

Claims 1-31 are pending in this application. This action is made non-Final.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point

out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-8, 12-20, 24-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Porter et al. (US Patent No. 7,181,444), in view of McKeeth (US Patent No. 6,763,362).

As to claims 1, 12, Porter teaches a method/system for searching a document database (*i.e. a network for network-based content, a first database comprising previous search results and a second database for storing current search results, Summary*) comprising:

receiving a search query (*i.e. Receive search query, Fig. 4*);

returning a search result corresponding to the search query (*See Fig. 4*), including:

determining whether a query result corresponding to the search query is stored in a cache (*i.e. Query in Query Cache, Fig. 4*);

when the determining returns a negative result (*i.e. N, Fig. 4*) generating a first search result in accordance with a first set of predetermined search criteria (*i.e. retrieve and merge search engines results, Fig. 4*) and returning as the search result at least a subset of the first search result (*i.e. Merge search engine query results with data store results; Provide results, Fig. 4*);

when the determining returns a positive result (*i.e. Y, Fig. 4*);

generating an improved search result in accordance with a second set of predetermined search criteria (*i.e. retrieve from query cache, Fig. 4*) including performing an additional search (*i.e. fetch results from data store, Fig. 4*) corresponding to the search query, and returning as the

search result at least a subset of the improved search result (*i.e. Merge search engine query results with data store results; Provide results, Fig. 4*);

returning as the search result at least a subset of the first search result (*i.e. Merge search engine query results with data store results; Provide results, Fig. 4*).

Porter does not specifically teach:

accessing a reuse count of the caches search result;

wherein the cached search result comprises a list of results that satisfy the search query, and the reuse count comprises a number of times that the list of results has been reused to respond to submissions of the search query;

when predefined conditions are satisfied, including the reuse count being larger than a predetermined threshold count;

wherein the improved search result comprises an improved list of results that satisfy the search query; and

when the predefined conditions are not satisfied.

McKeeth teaches:

accessing (*i.e. determine popularity of selected link, Step 308, Fig. 3*) a reuse count (*i.e. link_pop, col. 7, line 64 to col. 8, line 13*) of the cached search result (*i.e. link_pop may be the number of times that a link is selected by the search engine server as a search result in response to user queries, col. 7, line 64 to col. 8, line 13*); wherein the cached search result comprises a list of results (*i.e. content Server 1, document A ... document U, See Fig. 2*) that satisfy the search query, and the reused count comprises a number of times that the list of results has been reused to respond to submissions of the search query (*i.e. link_pop may be the number of times that a*

link is selected by the search engine server as a search result in response to user queries, col. 7, line 64 to col. 8, line 13);

when predefined conditions are satisfied (*i.e. Step 310, 312 in Fig. 3*), including the reuse count being larger than a predetermined threshold count (*i.e. POP_THRESHOLD + 1*), generating an improved search result (*i.e. the robot crawls inside a content server, or between several content servers, col. 11, lines 19-40*) in accordance with a second set predetermined searching criteria (*i.e. visit site associated with link, step 440 in Fig. 4*) including performing an additional search (*i.e. the robot crawls inside a content server, or between several content servers, col. 11, lines 19-40*) corresponding to the search query, and returning as the search result at least a subset of the improved search result (*i.e. the robot follows all the links from the first link on the starting page, then the first link on the second page, and so on. Once the robot transfers the relevant information associated with the first link on each page, the robot proceeds to the second and subsequent links, and so on, col. 11, lines 19-40*); wherein the improved search result comprises an improved list (*i.e. add link to queue, Fig. 3*) that satisfy the search query (*i.e. the robot follows all the links from the first link on the starting page, then the first link on the second page, and so on. Once the robot transfers the relevant information associated with the first link on each page, the robot proceeds to the second and subsequent links, and so on, col. 11, lines 19-40*); and

when the predefined conditions are not satisfied (*i.e. Step 310, 312 in Fig. 3*), returning as the search result at least a subset of the cached search result (*i.e. receive search request, display search results to user, See Fig. 5*).

It would have been obvious to one of ordinary skill of the art having the teaching of Porter and McKeeth at the time the invention was made to modify the system of Porter to include the limitations as taught by McKeeth. One of ordinary skill in the art would be motivated to make this combination in order to update information associated with the link in view of McKeeth (Summary), as doing so would give the added benefit of achieving a better method of improving the freshness of the contents of the database as taught by McKeeth (Summary).

As to claims 2, 13, Porter teaches a method/system for searching a document database, comprising:

receiving a search query (*i.e. Receive search query, Fig. 4*);

returning a search result corresponding to the search query (*See Fig. 4*), including:

determining whether a query result corresponding to the search query is stored in a cache (*i.e. Query in Query Cache, Fig. 4*);

when the determining returns a negative result (*i.e. N, Fig. 4*), generating a first search result in accordance with a first set of predetermined search criteria (*i.e. retrieve and merge search engines results, Fig. 4*) and returning as the search result at least a subset of the first search result (*i.e. Merge search engine query results with data store results; Provide results, Fig. 4*);

when the determining returns a positive result (*i.e. Y, Fig. 4*);

returning as the search result at least a subset of the cached search result (*i.e. Merge search engine query results with data store results; Provide results, Fig. 4*); and

generating an improved search result in accordance with a second set of predetermined searching criteria (*i.e. retrieve from query cache, Fig. 4*) using additional search resources (*i.e. fetch results from data store, Fig. 4*);
returning as the search result at least a subset of the improved search result (*i.e. Merge search engine query results with data store results; Provide results, Fig. 4*).

Porter does not specifically teach:

accessing a reuse count of the caches search result, and determining a quality of the cached search result; wherein the cached search result comprises a list of results that satisfy the search query, and the reuse count comprises a number of times that the list of results has been reused to respond to submissions of the search query;

when the reuse count is less than or equal to a predetermined threshold count or a quality indication of the cached search result does not meet predefined criteria;

when the reuse count is larger than the predetermined threshold count and the quality indication meets the predefined criteria;

wherein the improved search result comprises an improved list of results that satisfy the search query.

McKeeth teaches:

accessing (*i.e. determine popularity of selected link, Step 308, Fig. 3*) a reuse count (*i.e. link_pop, col. 7, line 64 to col. 8, line 13*) of the caches search result (*i.e. link_pop may be the number of times that a link is selected by the search engine server as a search result in response to user queries, col. 7, line 64 to col. 8, line 13*), and determining a quality of the cached search result; wherein the cached search result comprises a list of results (*i.e. content Server 1,*

document A ... document U, See Fig. 2) that satisfy the search query, and the reuse count comprises a number of times that the list of results has been reused to respond to submissions of the search query (i.e. link_pop may be the number of times that a link is selected by the search engine server as a search result in response to user queries, col. 7, line 64 to col. 8, line 13);

when the reuse count is less than or equal (i.e. Step 310 in Fig. 3) to a predetermined threshold count (i.e. POP_THRESHOLD + 1) or a quality indication (i.e. LINK_AGE, Fig. 4) of the cached search result does not meet predefined criteria (i.e. LINK_AGE >= AGE_THRESHOLD, Step 312 in Fig. 3), returning as the search result at least a subset of the cached search result (i.e. receive search request, display search results to user, See Fig. 5); and

when the reuse count is larger (i.e. Step 310 in Fig. 3) than the predetermined threshold count (i.e. POP_THRESHOLD + 1) and the quality indication meets the predefined criteria (i.e. LINK_AGE >= AGE_THRESHOLD, Step 312 in Fig. 3), generating an improved search result (i.e. the robot crawls inside a content server, or between several content servers, col. 11, lines 19-40) in accordance with a second set of predetermined searching criteria (i.e. visit site associated with link, step 440 in Fig. 4) using additional search resources (i.e. the robot crawls inside a content server, or between several content servers, col. 11, lines 19-40), wherein the improved search result comprises an improved list (i.e. add link to queue, Fig. 3) of results that satisfy the search query (i.e. the robot follows all the links from the first link on the starting page, then the first link on the second page, and so on. Once the robot transfers the relevant information associated with the first link on each page, the robot proceeds to the second and subsequent links, and so on, col. 11, lines 19-40); and returning as the search result at least a subset of the improved search result (i.e. the robot follows all the links from the first link on the

starting page, then the first link on the second page, and so on. Once the robot transfers the relevant information associated with the first link on each page, the robot proceeds to the second and subsequent links, and so on, col. 11, lines 19-40).

It would have been obvious to one of ordinary skill of the art having the teaching of Porter and McKeeth at the time the invention was made to modify the system of Porter to include the limitations as taught by McKeeth. One of ordinary skill in the art would be motivated to make this combination in order to update information associated with the link in view of McKeeth (Summary), as doing so would give the added benefit of achieving a better method of improving the freshness of the contents of the database as taught by McKeeth (Summary).

As to claims 3, 15, 25, 26, 27, 28, McKeeth teaches:

updating the cache with the improved search (*i.e. updating contents of the link database, col. 10, line 47 to col. 11, line 6*); and

updating the reuse count of the cached search result (*i.e. link_pop may be the number of times that a link is selected by the search engine server as a search result in response to user queries, col. 7, line 64 to col. 8, line 13*);

As to claims 4, 16, McKeeth teaches:

when the reuse count is greater than the predetermined threshold count and the quality indication does not meet the predefined criteria (*See Fig. 3*) and indicates that the cached search result is the improved search result (*i.e. update link content?, Fig. 4*) corresponding to the search

query, retrieving the improved search result from the cache (*i.e. the robot 206 "crawls" inside a content server 104, col. 11, lines 19-40*); and

returning as the search result at least a subset of the improved search result (*i.e. receive search request, display search results to user, See Fig. 5*).

As to claims 5, 17, 29, McKeeth teaches:

when the quality indication has a first value, the cached search result is generated by searching only the document database (*i.e. Query database to generate results, Fig. 5*);

wherein the second set of search criteria comprises searching both the document database and additional database (*i.e. the robot crawls inside a content server, or between several content servers, col. 11, lines 19-40*).

As to claims 6, 18, 30, McKeeth teaches:

when the quality indication has a first value, the cached search result is generated by searching the document database using a standard search depth (*i.e. Query database to generate results, Fig. 5*); and

the second set of predetermined search criteria comprises searching the document database with a larger search depth than the standard search depth (*i.e. the robot follows all the links from the first link on the starting page, then the first link on the second page, and so on. Once the robot transfers the relevant information associated with the first link on each page, the robot proceeds to the second and subsequent links, and so on, col. 11, lines 19-40*).

As to claims 7, 19, 31, McKeeth teaches:

wherein the first set of search criteria comprises searching the document database using initial search criteria (*i.e. Query database to generate results, Fig. 5*); and

wherein the second set of predetermined search criteria comprise searching the document database using modifying search criteria distinct from the initial search criteria (*i.e. The process 400 starts at block 410 after the search engine server 108 has built a new, or updated and existing, queue 208 as described above, col. 10, line 47 to col. 11, line 6*).

As to claims 8, 20, McKeeth teaches generating an improved search result comprises:

submitting the search query to one or more document identification and document servers in accordance with the second set of predetermined search criteria (*i.e. the robot follows all the links from the first link on the starting page, then the first link on the second page, and so on. Once the robot transfers the relevant information associated with the first link on each page, the robot proceeds to the second and subsequent links, and so on, col. 11, lines 19-40*);

receiving search results from the one or more document identification and document servers (*i.e. the robot follows all the links from the first link on the starting page, then the first link on the second page, and so on. Once the robot transfers the relevant information associated with the first link on each page, the robot proceeds to the second and subsequent links, and so on, col. 11, lines 19-40*); and

creating a search result list from the received search results (*i.e. the robot follows all the links from the first link on the starting page, then the first link on the second page, and so on.*

Once the robot transfers the relevant information associated with the first link on each page, the robot proceeds to the second and subsequent links, and so on, col. 11, lines 19-40).

As per claim 14, McKeeth teaches the search results in the cache (*i.e. link database 202, col. 5, line 60 to col. 6, line 4*) comprise:

identification of documents (*i.e. web page "index.html", col. 5, line 60 to col. 6, line 4*);

content of portions of document (*i.e. The indexer 204 receives data (e.g., web pages) retrieved by the robot 206, and extracts some portion of that data that is used to associate a given link with the information on the file to which the link refers, col. 6, lines 19-33*) corresponding to at least a subset of the identification of document (*i.e. The link is associated in the link database 202 with data (e.g., text, images, etc.) stored in the web page "index.html.", col. 5, line 60 to col. 6, line 4*);

parameters of documents corresponding to the identifications of documents (*i.e. The indexer 204 receives data (e.g., web pages) retrieved by the robot 206, and extracts some portion of that data that is used to associate a given link with the information on the file to which the link refers, col. 6, lines 19-33*).

As per claim 24, McKeeth teaches the system of claim 13, including:

one or more interface modules for receiving a search query (*i.e. Search engine server, Fig. 2*);

one or more storage modules for storing document identification and the corresponding documents to be searched (*i.e. Memory, Fig. 2*);

wherein the search controller is configured to generate the improved search result by searching at least a subset of the stored document identifications (*controller, See Fig. 2*).

4. Claims 9-11, 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Porter et al. (US Patent No. 7,181,444), in view of McKeeth (US Patent No. 6,763,362), and further in view of Schultz (US Patent No. 6,208,988).

As to claims 9, 21, Porter teaches:

when the cache is determined not to have stored therein the search result (*i.e. N, Fig. 4*);
corresponding to the search query (*i.e. retrieve and merge search engines results, Fig. 4*);
generating a standard search result in accordance with the first set of predetermined search criteria (*i.e. retrieve and merge search engines results, Fig. 4*);

storing the standard search result in the cache (*i.e. update query cache, update search history, Fig. 4*);

returning at least a subset of the standard search result (*i.e. Merge search engine query results with data store results; Provide results, Fig. 4*).

Porter, McKeeth do not specifically teach:

setting the reuse count of the cached search result to an initial value.

Schultz teaches setting a count to an initial value (*i.e. setting the reuse count of the search query to an initial value, col. 9, lines 20-45*).

It would have been obvious to one of ordinary skill of the art having the teaching of Porter, McKeeth and Schultz at the time the invention was made to modify the system of Porter, McKeeth to include the limitations as taught by Schultz. One of ordinary skill in the art would be

motivated to make this combination in order to count the selected document in view of Schultz (col. 9, lines 20-45), as doing so would give the added benefit of obtaining a document record that has a metadata field with the highest count corresponding to the given person will appear first on the ranked list corresponding to the given person, and the document record having a metadata field with the lowest count corresponding to the given person will appear last on the ranked list as taught by Schultz (col. 9, line 66 to col. 10, line 34).

As to claims 10, 22, McKeeth teaches generating the standard search result comprises:

submitting the search query (*i.e. Query database to generate results, Fig. 5*) to one or more document identification and document server in accordance with the first set of predetermined search criteria (*i.e. the robot follows all the links from the first link on the starting page, then the first link on the second page, and so on. Once the robot transfers the relevant information associated with the first link on each page, the robot proceeds to the second and subsequent links, and so on, col. 11, lines 19-40*);

receiving search results from the one or more document identification and document servers (*i.e. the robot follows all the links from the first link on the starting page, then the first link on the second page, and so on. Once the robot transfers the relevant information associated with the first link on each page, the robot proceeds to the second and subsequent links, and so on, col. 11, lines 19-40*); and

creating a search result list from the received search results (*i.e. the robot follows all the links from the first link on the starting page, then the first link on the second page, and so on.*

Once the robot transfers the relevant information associated with the first link on each page, the robot proceeds to the second and subsequent links, and so on, col. 11, lines 19-40).

As to claims 11, 23, McKeeth teaches:

if the reuse count is less than or equal to the predetermined threshold count (*i.e. Step 310 in Fig. 3*);

retrieving the standard search result from the cache (*i.e. Query database to generate results, Fig. 5*); and

returning at least a subset of the standard search result (*i.e. receive search request, display search results to user, See Fig. 5*).

Response to Arguments

5. Applicant's arguments regarding the cited arts do not teach or suggest the features of claimed invention, with respect to claims 1-31, have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Miranda Le whose telephone number is (571) 272-4112. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Cottingham, can be reached on (571) 272-7079. The fax number to this Art Unit is (571)-273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Miranda Le
February 07, 2008